REMARKS

This Response is submitted in reply to the Office Action mailed on August 22, 2007. Attorneys for Applicants were recently appointed for prosecuting the present application. Though Applicant has identified that at least one of the status signifiers from the RCE filed May 29, 2007, is incorrect (that for claim 17), some reliance has been had on the status signifiers from previous responses. Should any of these be incorrect, Applicant will duly make any correction.

Claims 1-45, 47-48, and 57-64 are pending in this application. No new matter has been added by any of the amendments made herein.

Summary of Claim Amendments

Claim 1 has been amended for clarification purposes and not for any reason of patentability. For instance, it is clear that "the frame" referred to in the fifth line was intended to be the same frame described in the third line, and it is clear that the examination of the claim has been consistent with such intention.

Claim 2 has been amended to include a comma for clarification purposes and not for any reason of patentability.

Claim 5 has been amended for clarity to indicate "distractor mechanisms respectively" attached to each of the third and fourth members, and not for any reason of patentability.

Claim 8 has been amended for clarity with respect to the mounting of the distractor mechanisms, and not for any reason of patentability.

Claim 16 has been amended to include a comma for clarification purposes and not for any reasons of patentability.

Claim 17 has been amended to properly set off the "at least one adjustment mechanism" as an element of the claimed system, whereas it previously may have been improperly

interpreted to be a sub-component of the "second distractor mechanism." It should be noted that, as the "at least one adjustment mechanism" is to be "engaged to at least one of said first and second distractor mechanisms," the original intention of the claim limitations is consistent with the meaning as currently presented. Similarly, claim 17 is amended to make clear that it is the clamping device that is "operable to clampingly engage." For each, it is believed that the scope of the claim has not changed, and the amendments made are not for reasons of patentability.

Claim 26 for clarity and not for any reasons of patentability.

Claim 29 has been amended to require the shaft to be non-rotatably and linearly advanced. As the claim is believed to be patentable independent of this narrowing, the amendment is not made for reasons of patentability.

Claim 30 has been amended for clarification purposes and not for any reasons of patentability.

Claims 31 and 59 have been amended for clarity in similar fashion, and not for any reasons of patentability.

Claims 36 and 60 have been amended to include the word "generally" modifying the limitation of "opposite." As the claim is believed to be patentable independent of this broadening, the amendment is not made for reasons of patentability.

Claim 41 has been amended to require the frame to lie in two different planes, incorporating the limitations of original claim 46, and to clarify the first and second conditions.

Claim 46 is cancelled in light of the amendments to claim 41.

Claim 47 is amended for dependence due to the cancellation of claim 46.

Prior Art Rejections

In the Office Action, claims 1-4, 7, 15, and 16 stand rejected under 35 USC §102(b) as being anticipated by U.S. Patent No. 6,083,154, to Liu, et al. ("Liu"). Claims 17-21 and 26-40 stand rejected under 35 USC §102(b) as being anticipated by U.S. Patent No. 5,944,658, to Koros, et al. ("Koros"). Claims 5-14 stand rejected under 35 USC §103(a) as being unpatentable over Liu in view of Koros, while claims 22-25, 41-48, and 57-64 stand rejected as unpatentable over Koros in view of Liu. Applicants respectfully submit that the rejections have been overcome or are improper for the reasons set forth below. Accordingly, Applicants respectfully request reconsideration of the patentability of claims 1-45, 47-48, and 57-64.

Claim 1

Claim 1 stands rejected as anticipated by Liu. Claim 1 requires, *inter alia*, "a frame including a first portion lying in a first plane and a second portion lying in a second plane, said second plane forming an angle with said first plane." As can be seen in Figs. 1-3, a form of the frame 20 includes a number of lengths generally defining a closed frame. The frame 20 includes two bends (set at angle A, Fig.2, e.g.) that are aligned with each other (see views of Figs. 2 and 3). With reference to Fig. 2, these bends allow one frame portion (to the left of the bends, angle A) to sit in a first plane P1, and a second frame portion (to the right of the bends) to sit in a second plane P2.

By having the first and second frame portions in two planes, angled from each other, a number of benefits are achieved. As described in the Background, paragraph [0003], "Prior devices are not fully convenient to use in spinal surgery, particular for positing and maintaining retractors in a desired angular orientation relative to the operating space." The present invention of claim 1 assists in achieving exactly such desired angular orientation.

In contrast, the cited Liu patent has no such feature. Each portion of the circular frame 8 lies in the same plane. A plane may be defined as "a surface generated by a straight line moving at a constant velocity with respect to a fixed point," *Random House Unabridged Dictionary*, 2006, and as a "surface containing all the straight lines that connect any two points on it," *American Heritage Dictionary of the English Language, Fourth Edition*, Houghton-Mifflin Company, 2006. As can be seen, the frame 8 of Liu sits in a single plane.

Additionally, claim 1 requires each of the portions of the frame to include "a recess to receive clamping devices coupled to said respective ones of said retractors." A form of the frame including recesses is best seen in Fig. 3, denoted by reference numbers 22, 24, 26, and 28. The specification describes "At least one recess 22, 24, 26, 28 is formed in each of the members 21, 23, 25, 27 to accommodate attachment of a clamping device 40 thereto."

In contrast, the Liu patent includes no such recess. A recess may be defined as "a receding part or space, as a bay or alcove in a room," *Random House Unabridged Dictionary*, as an "indentation or small hollow," and "an alcove," *American Heritage Dictionary of the English Language*, or as "a small concavity" and "an enclosure that is set back or indented," *WordNet 3.0*, Princeton University, 2006. Liu only shows a dis-continuous frame, having an opening or break in one portion described as a "cut-away part 9." Col. 4, lines 39-40. Such "cut-away part" is not a recess as claimed.

Furthermore, Liu only discloses a single "cut-away part 9," while the present claim 1 requires a recess for each of the first and second frame portions. Were the Liu patent to provide a pair of "cut-away" parts, the frame 8 would be in two pieces, and it would have no ability to apply any force with the retractors.

Still further, in claim 1, the provision of separate recesses for the retractors enables the retractors to be attached to the frame without passing over the above-noted bends, a feature that is related to the ability of the frame of the claimed invention to provide greater operative access and the desired angular orientation.

Anticipation under §102 requires a single reference to disclose every element of a claim. As Liu does not disclose the claimed frame lying in two planes, and does not disclose the recesses, it cannot anticipate claim 1. Furthermore, any modification of Liu (either singly or in combination with any other reference) would not result in the claim and its limitations being obvious. Accordingly, withdrawal of this rejection with respect to claim 1 and each of its dependent claims 2-16 is respectfully requested.

Claim 17

Claim 17 stands rejected as being anticipated by Koros. Claim 17 requires a system including, briefly stated, first and second anchors, a frame, a retractor, and a pair of distractor mechanisms. The system also requires "at least one adjustment mechanism engageable with at least one of said first and second distractor mechanisms." The adjustment mechanism includes a shaft having an end "pivotally coupled with said at least one of said first and second distractor mechanisms at a pivoting coupling location adjacent a proximal end" thereof, the shaft "extending away from said pivoting coupling location toward said frame and into a clamping device movable along said frame, the clamping device operable to clampingly engage said adjustment mechanism to said frame."

By way of explanation, a form of the adjustment mechanism is numbered as 70 in the Figs. As somewhat of an overview, Fig. 6 shows an adjustment mechanism 70 depicted as secured by a clamping device 40, which is in turn secured with the frame. In Fig. 6, one should

note the cooperation of a coupling mechanism 76 with the distractor mechanism 320: the distractor mechanism includes flanges 328 which are received within the coupling mechanism 76, the flanges 328 being best viewed in Fig. 7. Viewing Fig. 7 now, one can see the flanges 328 includes arcuate slots 326. These slots 326 receive a pin (pivot roller 90, Fig. 9) to allow the distractor mechanism to pivot relative to the coupling mechanism such that the pivot roller moves along the slots 326.

In the form of the Figs., the adjustment mechanism 70 includes the portion referred to as engagement member 87, which may serve as the end "pivotally coupled with" at least one of the distractors. More specifically, the claimed adjustment member includes a shaft having an engagement end. In a form of the claimed shaft, such is labeled as reference number 85 (see Fig. 9). To explain the operation of the shaft and, hence, the engagement member, in the form shown: the shaft 85 and engagement member 87 reciprocate along the longitudinal axis of the shaft 85 to move the engagement member 87 into and out of engagement with the distractor mechanism (engagement portion 324 thereof). The engagement member 87 is between the flanges 328, and the pivot roller 90 simply passes through an oversized opening transverse (slot 88, Fig. 11) through the engagement member 87.

Accordingly, in operation, one can see how the shaft end (engagement member 87) is pivotally coupled with the distractor mechanism (engagement member 324). More specifically, claim 17 requires a "shaft having a distal end pivotally coupled with at least one of said first and second distractor mechanisms at a pivoting location."

In contrast, Koros shows no such structure. In fact, the Office Action's discussion of these features is limited to the terse "(see Figure 1)" statement on page 4. Koros is not entirely clear on the operation of its purported "tilt" feature. For instance, the screws 84 and 96 must

advance against something (see Fig. 5) in order to pivot. For screw 84, it can be assumed that the entire coupling 80 tilts, but is somehow retained in a general position on crossbar 14: there is no described or illustrated structure that describes how advancing this screw 84 does not simply result in raising the entire assembly of the coupling 80 and retractor arm 18 and retractor blade 26 relative to the crossbar 14. This same issue is presented for screw 86, which also requires the entire coupling 82 to pivot (compare Figs. 1, 4, and 5). However, for screw 86 and coupling 82, there is an additional issue with the fact that it is not clear how the coupling 82 remains engaged with the teeth of the rack gear 16 when it pivots.

In any event, the above-description for Koros is suitable to demonstrate how the patent fails to teach the features of claim 17. That is, claim 17 requires a shaft "having a distal end pivotally coupled with" one of the distractor mechanisms. In Koros, the closest thing to a "shaft" would have to be the screws 84 and 86: however, each of these is threadably coupled with the distractor mechanism, at best.

Further, claim 17 requires the shaft be "extending away from said pivoting coupling location toward said frame and into a clamping device movable along said frame, the clamping device and operable to clampingly engage adjustment mechanism to said frame." Were the Koros screws viewed as the shaft, they would extend upward and away from the pivoting coupling location: however, neither would also then be extending "toward said frame:" that is, as the claim requires "extending away from said pivoting coupling location toward said frame," this portion of the claim requires the "extending" to be the same for both the "away from said pivoting coupling location" and the "toward said frame."

Koros fails to show the claimed "shaft" as part of the adjustment mechanism being entirely separate from the "clamping device operable to clampingly engage said adjustment

mechanism to said frame." That is, in Koros, the "clamping device" does not exist, except to the extent that the screws 84 and 86 secure the couplings 80 and 82. In the claim, the shaft is a separate component from the clamping device, whereas the best Koros can show is the shaft (screw) and clamping device being one and the same.

As even a strained reading of Koros fails to describe or suggest the claim limitations of claim 17, it does not anticipate nor make obvious the claim. Therefore, withdrawal of the rejection is respectfully requested for claim 17 and its dependent claims.

Claim 41

Claim 41 stands rejected as being obvious in view of Koros in combination with Liu. Claim 41 is similar to claim 17 in that it requires an adjustment mechanism and, in specific, first and second adjustment mechanisms coupled to the first and second distractor mechanisms. However, as amended, claim 41 also requires the frame to have first and second portions lying in first and second planes that form an angle.

Each of Koros and Liu have been discussed above. Neither reference shows or suggest the limitations of the first and second plane, as discussed with respect for claim 1. Accordingly, this rejection is believed to have been overcome.

Claim 57

Claim 57 stands rejected as being obvious in view of Koros in combination with Liu. Claim 57 is similar to claim 17 as it requires adjustment mechanisms for each distractor mechanism. Each adjustment mechanism requires an adjustment handle, a "shaft assembly extending from said adjustment handle, said shaft assembly including an outer shaft and an inner shaft movably positioned within said outer shaft," and "an engagement member at an end of said shaft assembly opposite said adjustment handle."

Koros shows the pivot action as described above for claim 17 including a screw (threaded member) that is advanceable to force the blades to pivot within the operating field. Liu shows a rod secured with the blades, the rod being located within a ball clamp so, when the blade is in a desired position, the ball clamp is tightened to secure the blade and rod in that position.

The most strained reading of the references fails to disclose the claimed structure for the adjustment mechanism. As discussed, the most strained reading of Koros would result only in a teaching of the threaded member being a shaft. An enlarged portion used for rotating the threaded member would then represent an adjustment handle. However, Koros would nonetheless fail to teach or suggest an outer shaft having an inner shafts moveable therewith. Similarly, one would have to view the rod of Liu as the shaft, and a portion thereof as the adjustment handle. However, Liu would still not only fail to teach or suggest the inner and outer shaft arrangement, but would also fail to teach an engagement end at an end of the shaft assembly opposite the adjustment handle.

More importantly, no combination of these references supports a finding of obviousness of the inner and outer shaft arrangement of the shaft assembly.

Beyond this, claim 57 requires the engagement member to include "a number of teeth configured to selectively interdigitate and lockingly engage a number of teeth provided adjacent a proximal end of said distractor mechanism." The cited Liu and Koros patents do not, either singly or in combination, suggest or otherwise make obvious such toothed engagement for locking the engagement member with the distractor mechanism.

The claim moreover requires the "adjustment handle is linked with said inner shaft, said adjustment handle being rotatable to move said inner shaft and said engagement member between said first condition and said second condition." It should be noted that the screws 84

and 86 of Koros are essentially always in a locked position: there is no indication that the screws can be moved to the claimed "second condition" in order "to permit said distractor mechanism to pivot relative to said frame," as the screws, at best, move the distractors from one position to another, though always and only through movement of the screw itself and not by the screw moving to a "second condition . . . to permit" the distractor mechanism to pivot, as required by the claim.

In light of the above comments, it is clear that the combination of the references fails to disclose, suggest, or otherwise make obvious every limitation. Accordingly, withdrawal of the present rejection is respectfully requested.

Claim 58

Claim 58 stands rejected as being obvious in view of Koros in combination with Liu. Claim 58 stands rejected on the same basis as claim 57, with which it shares a number of limitations such as first and second adjustment mechanisms coupled with respective distractor mechanisms, each adjustment mechanism having a "first condition in locking engagement with said respective distractor mechanism to fixedly secure" the distractor mechanism with the frame and having a "second condition" in pivotal engagement with the distractor mechanism to permit the same to pivot. Claim 58 also requires the adjustment mechanisms to have an engagement member including a "number of teeth configured to selectively interdigitate and lockingly engage a number of teeth" on the distractor mechanism. Each of these limitations has been generally discussed above with reference to claim 57. For at least these reasons, claim 58 is not made obvious by the combination of cited references, and withdrawal of this rejection is requested.

Additionally, the teeth are prescribed as "engaging one another along a concave-convex pivot path." This limitation, or a suggestion, is nowhere to be found. These claim features are not obvious as there is nothing obvious about engagement being effected by the end of the adjustment mechanism by interlocking teeth, nor the teeth being in an arcuate pattern ("along a concave-convex pivot path") to accommodate the pivoting.

Again, additional structural limits are imposed by claim 58 in the form of a pair of plates on the adjustment mechanism, and a pair of plates on the distractor mechanism pivotally coupled to the adjustment mechanism plates. No structure in the prior art remotely suggests or otherwise makes obvious these reasons.

To summarize, there are many limitations present in claim 58 that are not taught or otherwise made obvious by the prior art, either singly or in combination, and this rejection should be withdrawn for this claim as well as its dependent claims 59-64.

Conclusion

For at least these reasons, Applicants respectfully submit that the cited prior art does not disclose, teach, suggest, or otherwise make obvious the elements of the claims as amended. Thus, each claim is patentably distinguished over the prior art and in condition for allowance. Accordingly, Applicants respectfully request that claims be deemed allowable at this time and that a timely Notice of Allowance be issued in this case.

If any other fees are due in connection with this application, the Patent Office is authorized to deduct the fees from Deposit Account No. 19-1351. If such withdrawal is made, please indicate the attorney docket number (88730-400300) on the account statement.

Respectfully submitted,

Seyfarth Shaw LLP
Attorneys for Assignee
131 South Dearborn Street
Suite 2400
Chicago, Illinois 60603
312-460-5000

By 
Brian S. Clise
Reg. No. 47,497